INFORMATION BULLETIN 99-03

Board of Registration for Geologists and Geophysicists
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FIELDS OF EXPERTISE RESCINDED

On June 4, 1999, the Board of Professional Engineers and Land Surveyors (BPELS) rescinded its Fields of Expertise document (Policy Resolution No. 96-10) after the Office of Administrative Law (OAL) determined that it is invalid because it was not adopted pursuant to the Administrative Procedures Act (APA).

Per OAL, the Fields of Expertise is invalid because it does not fall within any recognized exemption from APA requirements and meets the two-part test for a regulation: (1) It is a standard of general application because it applies to all civil engineers and geologists, and (2) it implements, interprets and makes specific Business and Professions Code sections 6731 through 6731.3.

State of California Department of Consumer Affairs

August 1999

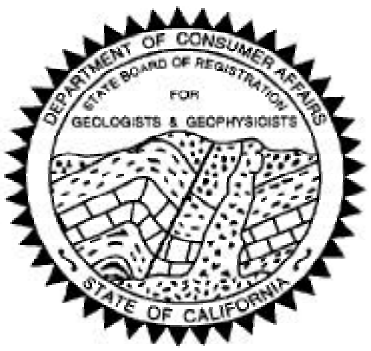
The Fields of Expertise document was adopted by BPELS to assist its staff to clarify and differentiate between the responsibilities and duties of Registered Civil Engineers and Registered Geologists and identify activities within the scope of professional practice of civil engineering and geology. However, public comments submitted to OAL by geologists and organizations representing geologists suggest that the Fields of Expertise has been used for a number of improper purposes, including the qualification and disqualification of expert witnesses in private dispute litigation.

PROPOSED REGULATIONS

Senate Bill 2238 (Chapter 879, Stats. 1998) mandates that the Board require its licensees to provide notice to their clients that they are licensed by the state. Regulations recently proposed by the Board would require each licensee to provide notice of licensure by the state by (1) displaying the license in the public area of the premises where the licensee does business, (2) providing a statement to each client, to be signed by the client, that states that the client understands that the licensee is licensed, (3) including a statement of licensure on letterhead or on contracts or (4) posting a notice of licensure in a public area of the premises where the licensee does business.

Any person interested may present statements or arguments relevant to the action proposed orally or in writing at a hearing to be held at 9:00 AM on October 22, 1999 at the Piccadilly Inn University, 4961 North Cedar Avenue, Fresno, California, 93726. The Board must receive written comments at its office no later than 5:00 PM on October 21, 1999, or at the hearing.

Copies of the exact language of the proposed regulations and of the initial statement of reasons and other information, if any, may be obtained from the Board at or prior to the hearing upon request.



WHERE ARE YOU?

The answer to "Where Are You?" in the Summer 1999 Newsletter is:

LAKE HAVASU

The next edition of "Where are you?" will appear in the Winter 1999 Newsletter.

YOUR ADDRESS ON THE WEB

California Civil Code section 1798.61 authorizes the public release of names and addresses of persons licensed to engage in professional occupations. It is the Board's policy to post its licensees' names and addresses of record on its website in the Directory of Licensees at www.dca.ca.gov/geology.

If you would like to change your address of record, please send, fax or e-mail a request to the Board. The address of record is your mailing address. Addresses are updated every three months. The next address update is September 15.

OCCUPATIONAL ANALYSIS COMPLETE!

The occupational analysis for the Certified Hydrogeologist License is complete! The results of the occupational analysis serve as the basis for the examination program for certified hydrogeologists. The analysis could not have been done without a panel of volunteer experts. The Board appreciates the efforts of the licensees who completed surveys and participated in interviews and panel discussions to ensure that the results of the occupational analysis represent current practice. The Board would also like to thank Dr. Norman Hertz, Dr. Roberta Chinn and Tavi Pingree of the Department of Consumer Affairs, Office of Examination Resources, for their work.

NEW STUDENT GUIDES

The Board's new *Student Guide to Geologic Licensure in California* and *Student Guide to Geophysical Licensure in California* are available. The Board provides copies of the guides to colleges and universities because it believes that the guides accurately describe the subject areas that will give students the solid foundation in the geologic and geophysical sciences required to pass the Board's licensing examinations. They also contain valuable information about the Association of State Boards of Geology examinations. The Board will administer these examinations for licensure as a Registered Geologist beginning in spring 2000. If you would like copies of the guides, please request them from the Board.

MEETING SCHEDULE

Board
August 13 - Los Angeles

Technical Advisory Committee
September 10 - Los Angeles

Examination Committee
September 17 - Sacramento

Legislative Committee
October 8 - Sacramento

Board
October 22 - Fresno

Technical Advisory Committee
November 5 - San Francisco

Examination Committee
November 12 - Sacramento

Board
December 3 - San Francisco

THE PRACTICE OF GEOLOGY IN FORESTED LANDSCAPES

Following is the abridged transcript of a presentation by Seena Hoose, President of the Board. This talk was given at the California Licensed Foresters Association August 27, 1998 workshop on "Geology and Mass Wasting in Forested Landscapes." The opinions and views expressed in this article reflect the personal opinions of the author and do not necessarily reflect the view of the Board.

Unstable areas (see 14 CCR §895.1) and landsliding have been at the forefront of issues discussed at recent Board of Forestry and Fire Protection meetings. With the increasing recognition of the importance of documenting watershed conditions relative to cumulative impacts, the role of the Registered Professional Forester (RPF) in the identification and treatment of these areas is becoming more complex and critical. In undertaking these tasks, it is crucial that the "RPF recognize when the expertise that is prudently required exceeds the expertise possessed by the professional forester." (PRC 752)

The dividing line between addressing unstable areas and the practice of geology is admittedly blurred in many situations. The Board of Registration for Geologists and Geophysicists (Board), Board of Forestry and Fire Protection and Professional Foresters Registration are currently attempting to clarify this line, and subsequently informing both Geologists and Professional Foresters what constitutes prudent practice in their respective professions.

I may say some things that are surprising, including some new information that you may not have heard before. I also expect some questions, so I am going to try to go as quickly as I can so that we have time for discussion.

I will provide some background on the Geology Board to give you a perspective of how licensing for geologists fits relative to licensing for foresters. The Board was created in 1969. Board members serve for four years. There are three professional people on the licensing Board for Geologists and Geophysicists; the other four members represent the public interest. That is where the Board's mission comes in: "To continuously enhance the quality, value and the availability of geological and geophysical services offered to the people of California." This includes everybody in this room. This mission means we need to have a supply of enough geologists to do the work. We also need to have people who are well trained and who have been examined appropriately. To meet this need, the Board maintains a roster of licensed geologists for the public. The website address for the Board is *http://www.dca.ca.gov/geology*. If you have specific questions or concerns about the Board or its functions, the e-mail address is: *geology@dca.ca.gov*. You can connect directly into the e-mail from the website.

The requirements to become a registered geologist are a minimum of a bachelor's degree in geology and five years' experience at a professional level. The geologist has to work for five years under the immediate supervision of a registered geologist, and that work has to be of sufficient complexity and variety to qualify the individual to take the license exam. Then the geologist has to pass the exam. The exam for the last several years has had a pass rate on the order of 30%, which I understand is fairly comparable to the registered forester's exam.

Once a person has a license as a registered geologist, he or she can obtain another license, as a certified engineering geologist. Registered Geologists can do the activities of engineering geologist, but they cannot call themselves a Certified

Engineering Geologists unless they have passed the exam. I think you can see from the definition in the act, quoted below, that geologists do basically anything that has to do with the earth.

"Sec. 7802. "Geology," as used in this chapter, refers to that science which treats of the earth in general; investigation of the earth's crust and the rocks and other materials which compose it; and the applied science of utilizing knowledge of the earth and its constituent rocks, minerals, liquids, gases and other materials for the benefit of mankind."

This very broad definition includes rock, soil, and water, all the materials involved in landslides and unstable ground. This broad legal definition is something the Geology Board works with constantly. For the purposes of this discussion we have a little more focus, because a lot of the work we are talking about is engineering geology in particular.

Section 3003 of the Board's regulations defines engineering geology to mean "the application of geologic data, principles and interpretation so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized."

So, this is fundamentally the area of work where the engineering geologist comes into participation with forestry practices. That is, to make sure that the roads and other activities are designed and built in such a way that geologic conditions do not cause a negative impact on the environment or on the logging activities, or that negative impacts are minimized to the extent possible.

I have an example where a recent submittal Program Timberland Environmental Impact Report came in and identified that a Certified Engineering Geologist or a trained Registered Forester could do these [geologically related] activities. That is not quite legal, so this document is in error. I am going to talk later about ways that foresters can do their work, because we also have to be practical about the need to get the job done.

I recently had the opportunity to go on a pre-harvest inspection. The foresters really impressed me with their professionalism and their knowledge and understanding of the conditions they were looking at. Their observational skills were very, very good, and I have a feeling that this is a standard in the forestry profession. I can recognize different species of trees. That does not mean, in any way, that I should decide which of those trees should be cut, how they should be taken out, or which trees are the appropriate trees to take out for a selected harvest. There is no way at all that is any of my business as a geologist. It is the same sort of thing to recognize that a forester can identify and see things (unstable areas), but there is a level of the depth of knowledge that comes from training and experience as a geologist. I think about the things that I can recognize in the forest. I am certain I only see about 10% of what a forester would see and recognize. The same thing goes for the geologic conditions. I am confident that trained geologists see and can identify conditions, particularly the causes and the processes of hillslope movement, that are not intuitively obvious to other intelligent, trained, knowledgeable people.

Classifying something in the landscape is a judgment. If it is necessary to evaluate the process, then the process and its implications must be understood in order to properly classify the hillslope conditions. Gerry Wieczorek at the USGS was one of the first researchers to classify and map landslides as possible, probable, questionable and definite. This is a very complex evaluation and changing the determination regarding the classification of a landslide is an important geologic judgment. When I was on the pre-harvest inspection, we looked at a variety of different landslides, and we talked about how old

certain of those landslides were. Some landslides were vegetated with berry bushes. This does not indicate a very old landslide. It could have been last year's landslide or the year before last. Geologists do not automatically classify something as an old landslide, even though it may have lots of vegetation on it.

The pre-harvest inspection that I went on is on a Pleistocene landslide, more than 10,000 years old. The entire harvest is within this big, old landslide, so all the soil present throughout the entire harvest area has at least at one time been moving down the mountain. So, the area is not intact material. Some parts of the old landslide surface have moved recently. These Pleistocene landslides and inactive or potentially active landslides should at least be identified, rather than swept under the rug and not mentioned. It is important to use the published literature to bring recognized landslides to the forefront in the Timber Harvest Plan and to cite them correctly. Using the published work of registered geologists and correctly referencing geologic maps is not inherently the practice of geology. When we talk about the relative stability or a determination about the type of relative stability, that is a professional decision that, in fact, *does* need to be made by a registered geologist.

When I was talking with my colleagues, they asked: "Well, what about using things like a checklist to help foresters make these decisions?" There are some difficulties with a checklist as well. When you are looking at bedrock, bedrock clearly falls within the definition of geology, and earth materials fall within that definition of geology. When asking what is the cause, then the critical issues concern landslide process. So, there are quite a few things here that need to be thought about. We have to work out a method or a means for working together to provide the information needed, and to do a good job in both professions.

One possible idea involves the concept of responsible charge work, which has to do with the individual who actually oversees the work, makes the professional judgments, or interacts with the subordinate employee who makes those professional judgements.

As I was thinking about this, I realized that the way that the Geologist and Geophysicist Act is written, a forester could for these purposes work as a subordinate employee to a geologist and do the first cut. The registered geologist would then have to come in and go through the mapping, and do a field inspection to verify the information or the determination that has been made. This is one way of reducing the amount of time that a registered geologist would have to spend on a timber harvest. These are some of the ways to approach or one idea for solving the issue of getting the work done in the way that it needs to get done.

One of the things I need to say, that I know nobody in this room is going to like, is that geomorphology is the practice of geology. This is probably a surprise to some people, because geomorphology is taught in many different university departments in different places. Geomorphology is a process-oriented subject, and geomorphic shapes in the landscape are a result of earth processes; therefore, geomorphology is, in fact, a practice of geology. Are there any questions? Hopefully some discussion?

Question: Is it practicing geology when a federal geomorphologist evaluates the work of a state-licensed geologist?

Answer: Yes. If they're practicing on federal land, and it does not affect anything other than federal land, the federal employee does *not* have to be licensed. However, if that geologic practice (of geomorphology) ends up having the result of reports, documents, etc., being disseminated or made available to the public, so that the public

may reasonably be expected to rely on them or to be affected by them, then that work *is* required to be done by a California Registered Geologist.

"Sec. 3003(f)(1). The practice of geology or geophysics "for others" includes but is not limited to the preparation of geologic or geophysical reports, documents, or exhibits by any commission, board, department, district or division of the state or any political subdivision thereof or of any county, city or other public body or by the employees or staff members of such commission, board, department, district or division of the state or any political subdivision thereof or of any county, city or other public body when such reports, documents or exhibits are disseminated or made available to the public in such a manner that the public may reasonably be expected to rely thereon or be affected thereby."

This is perfectly clear for state and local employees. It is not as explicit for federal employees, because there is not a court case that settles this issue. But this is what the law says at this time. The question of federal employees providing reports on state and private land is uncertain, but logic would indicate that they should be registered to do that work. The primary issue is a matter of public reliance on the outcome of the work.

Question: What are the limitations relative to a forester making a determination that a landslide is active, and is a forester practicing geology in undertaking a soil erosion hazard evaluation?

Answer: The determination of whether or not a landslide is an active landslide must be made by a registered geologist. Whether or not that is going to be a sediment source is a broader issue. Specifically, because there are a whole group of people who do erosion studies, including geologists. I do not know that erosion evaluation is specifically clear that it is limited to geologists; civil engineers could make an argument that it is an overlapping area of practice.

Question: Are you saying that the identification of unstable areas under the forest practice rules requires a geologist, not an RPF?

Answer: Yes, that is correct. The (forest practice) rules are wrong. The forester, in his/her final report, has to identify the unstable areas. If the forester needs another expert to accomplish that, then it's part of the forester's overall professional responsibility to bring in that expert. When a forester brings in an archeologist to deal with the archeological issues, this is a very similar kind of thing. The forester needs an expert who can provide certain pieces of information.

Question: Is there an avenue for foresters, with suitable training, to perform limited geology in THPs?

Answer: The suitable training program idea is that, say for example I have someone working for me as a subordinate employee. It is my job as a registered person to train that individual to recognize certain things and to be able to identify certain things. It is also my job as a professional to verify that they have done it correctly. I think that this is where there is room for us to work together and to resolve some of these challenges.

Question: Can a forester cite literature related to a THP area without practicing geology?

Answer: That is all it is, a citation, until you apply it specifically to a particular site. You cannot just apply a standard rule of thumb or a standard statistical relationship. For example: The Orinda Formation had "x" many potential landslides per square acre; therefore, this site, which is also in the Orinda Formation, is going to have so many landslides. It is not that simple, because that does not answer where you put the roads, nor does it address many other factors involved in exactly where the landslides are likely to occur. The basic answer is,

however, that citing existing literature and maps is not *necessarily* the practice of geology. Some risks are involved, because the maps may not be correct or because conditions may have changed since the map was created.

Question: I am still not sure whether RPFs are practicing geology without a license when what we do out in the field is identify unstable areas and put them on a map. We do not call these landslides, sometimes we can call them "potential", but usually we call them "unstable areas." We identify these as unstable areas on a map, and then we propose mitigation, whether it be a limitation on the tree harvesting around these unstable areas, or we propose to cross these things and apply mitigation for the heavy equipment use. In your opinion, is that practicing geology without a license?

Answer: Yes.

If you have questions about the roles of Registered Geologists and Licensed Professional Foresters, please contact the Board's enforcement staff.

CRITERION-REFERENCE PASS POINT SCORING METHOD ADOPTED

Purpose

By adopting a criterion-referenced passing score, a board or committee applies minimum standards for competent practice to all candidates, regardless of the form of the examination administered. Adoption of a criterion-referenced passing score may ultimately result in the licensure of candidates who have sufficient knowledge and experience to ensure public health and safety.

Process

Standard setting is a group process. The group should be composed of practitioners who are representative of all aspects of practice. To ensure that the description of the profession represents the job tasks of practitioners entering the profession, the standard-setting process should always include a number of newly licensed practitioners.

Criterion-reference standard setting begins with the establishment of a minimum acceptable level of competence for safe practice that candidates must possess in order to pass the examination. The panel develops common definitions of different levels of candidate performance by identifying critical work behaviors that contrast the highly effective, the minimally competent and the ineffective candidate.

Advantages

Because licensing examinations are known to vary in difficulty from one administration to another, a fixed passing score or percentage such as 70% does not represent the minimally acceptable competence for all administrations of an examination.

One important advantage of applying a criterion-referenced methodology is that the passing score is independent of the performance of other candidates who take the examination at the same time. The passing score is not based upon performance with respect to the group. Rather, the passing score is based on the difficulty of the items within the examination.

The Board initiated this new scoring method with the spring 1999 examinations.

If you have questions about the criterion-reference method of scoring examinations, please contact the Board's examination staff.

COMMITTEES

Examination

Executive

Legislative

Technical Advisory

All committee meetings are open to the public. Meeting agendas and minutes are available on the Board's website.

NEW STAFF

Peggy Farrell and Jada Tavares joined the Board staff in July. As Office Assistant, Peggy will assist the Board, Committees, Executive Officer and staff with meeting planning and daily administrative tasks. Peggy came to the Board from the Department of Corrections. As Seasonal Clerk, Jada will provide clerical assistance to the Board's enforcement staff. Welcome to both new staff members!

Pam Hopper, Management Services technician, has assumed the duties of Examination Coordinator.

BOARD STAFF

Paul Sweeney
Executive Officer

Mary Scruggs
Enforcement Manager

Mary Lynn Ferreira
Associate Governmental Program Analyst

Adam Mankoski
Enforcement Analyst

Pam Hopper
Examination Coordinator

Peggy Farrell
Office Assistant

Diane Cortopassi
Office Assistant

Jada Tavares
Seasonal Clerk

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